

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

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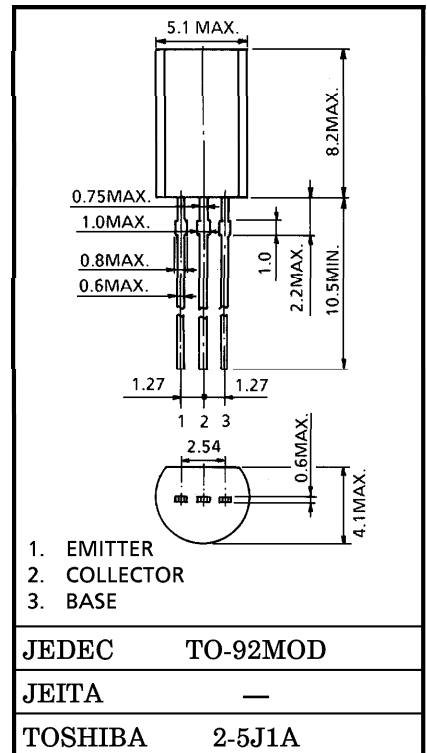
HIGH SPEED SWITCHING APPLICATION FOR INVERTER LIGHTING SYSTEM

- Suitable for R_{CC} Circuit. (Guaranteed small current h_{FE})
: $h_{FE} = 13$ (Min.) ($I_C = 1mA$)
- High Speed : $t_r = 0.5\mu s$ (Max.), $t_f = 0.3\mu s$ (Max.) ($I_C = 0.24A$)
- High Voltage : $V_{CEO} = 400V$

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	400	V
Collector-Emitter Voltage		V_{CEO}	400	V
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	1	A
	Pulse	I_{CP}	2	
Base Current		I_B	0.5	A
Collector Power Dissipation		P_C	0.9	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-55~150	$^\circ C$

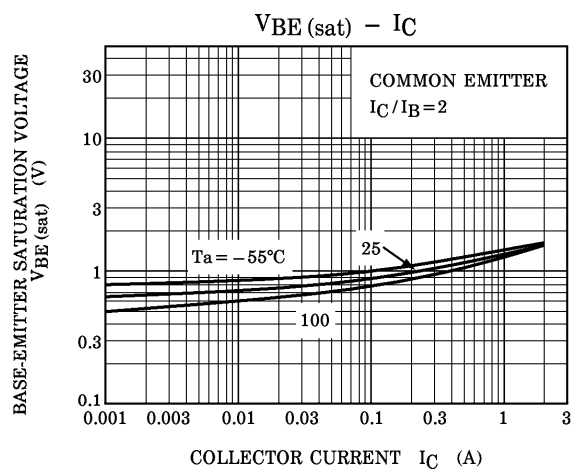
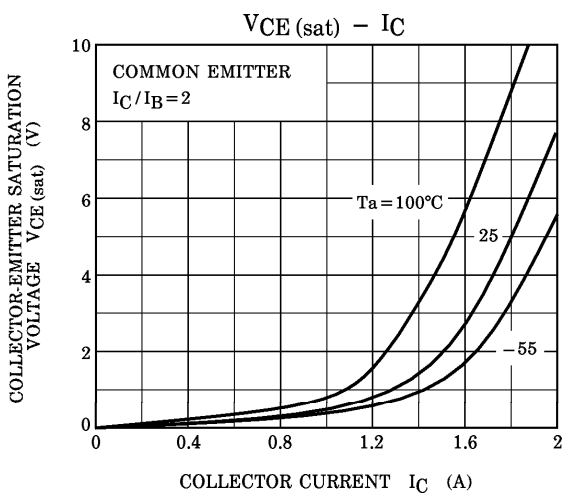
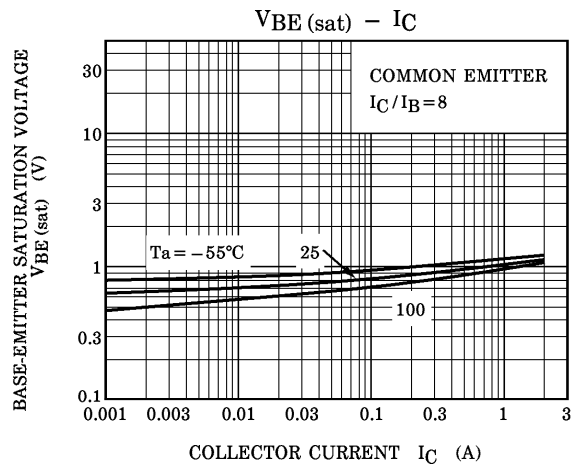
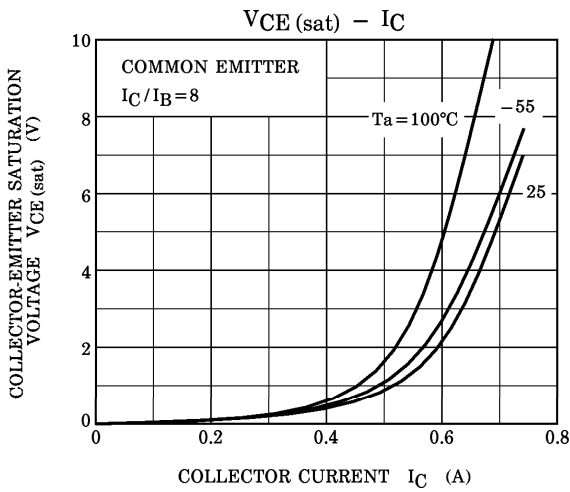
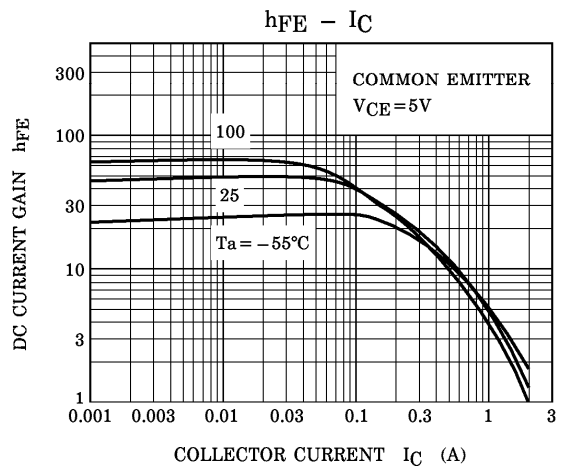
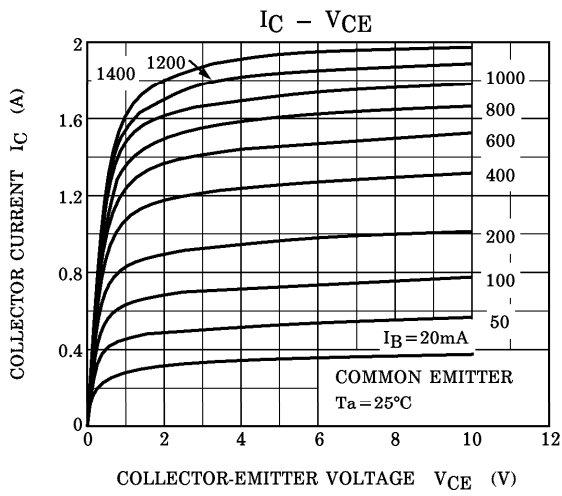
Unit in mm

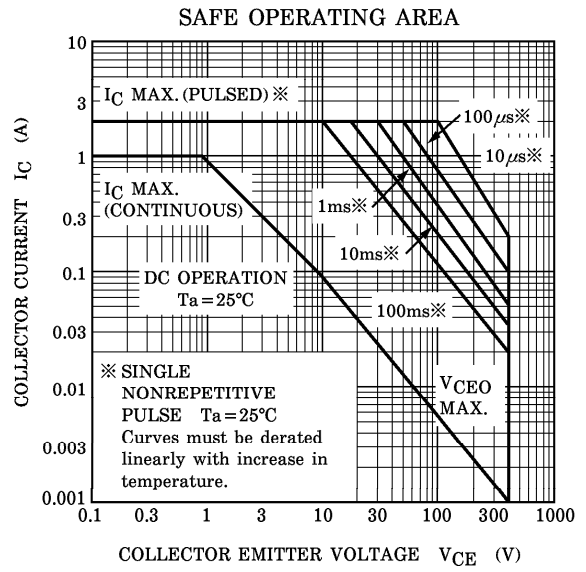
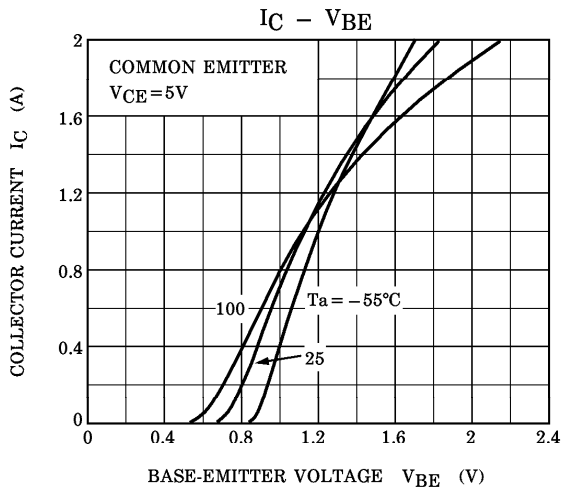


Weight : 0.36g (Typ.)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} = 320V, I _E = 0	—	—	100	μA
Emitter Cut-off Current		IEBO	V _{EB} = 7V, I _C = 0	—	—	100	μA
Collector-Base Breakdown Voltage		V _{(BR)CBO}	I _C = 1mA, I _B = 0	400	—	—	V
Collector-Emitter Breakdown Voltage		V _{(BR)CEO}	I _C = 10mA, I _B = 0	400	—	—	V
DC Current Gain		h _{FE} (1)	V _{CE} = 5V, I _C = 1mA	13	—	—	
		h _{FE} (2)	V _{CE} = 5V, I _C = 0.04A	20	—	65	
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 0.2A, I _B = 25mA	—	—	1.0	V
Base-Emitter Saturation Voltage		V _{BE (sat)}	I _C = 0.2A, I _B = 25mA	—	—	1.3	V
Switching Time	Rise Time	t _r	<p> $20\mu s$ $V_{CC} = 200V$ I_{B1} I_{B2} I_C 833Ω INPUT OUTPUT $I_{B1} = 0.03A$, $I_{B2} = -0.06A$ DUTY CYCLE $\leq 1\%$ </p>	—	—	0.5	μs
	Storage Time	t _{stg}		—	—	5.0	
	Fall Time	t _f		—	—	0.3	





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